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CUTTING-EDGE TOOL IN OPERATING ROOM

Good Sam's wand detects sponges left behind.

The surgical staff at Good Samaritan Medical Center will have a new tool in its operating rooms beginning next month. But it doesn't cure disease -- doesn't even touch the patient.

Instead, the staff can keep what may be the most common surgical error from festering into a fatal one, by literally waving a "wand" to make sure every surgical sponge that goes into a patient also comes out.

Hospital officials were alerted to the technology by a man who wishes they'd had it before: Judge Nelson E. Bailey.

Bailey confirms that Good Samaritan was up against a wall after he sued it for leaving a sponge in him -- one that rotted out part of his insides in the five months it took to detect it.

Still, he gives its administrators credit for not only settling his suit, but seeking the most advanced technology to prevent a similar case.

"Judge Bailey's experience was a wake-up call for us," Good Samaritan CEO Mark Nosacka said. "After that, we made an organized commitment to never let that happen again."

The hospital is one of only 100 in the country -- and only the second in Florida -- to employ the wand and specially tagged surgical sponges made by RF Surgical Systems to make sure no one is sewn up with those items still inside, said the company's marketing director, Steve Subiry.

The wand-and-tag system -- the wand beeps if it detects a tag -- is an evolution of technology originally created in the 1940s by the British military, which was seeking a way to distinguish its planes from the enemy's.

It's called radio-frequency identification.

"This is a very genuine and significant step forward in terms of patient safety," said Bailey, who underwent surgery for diverticulitis but spent the ensuing months in pain as X-rays and CT scans failed to reveal the festering footlong span of gauze that surgeons had left in his intestines.

According to medical journals, leaving a sponge or surgical instrument behind is the most common surgical error. One researcher estimated there are 3,000 such cases a year. Other published reports give error rates ranging from 1 in every 1,000 operations to 1 in every 18,000.

Good Sam says its doctors perform about 7,500 surgeries a year. But officials there say they can't recall any other case of a lost sponge.

Sponge can blend in with anatomy

Across the country, all operating room staffs are required to keep track of the sponges that go into a patient, manually counting them at least three times in the course of a surgery from beginning to end. Those counts must be reconciled before a patient is sewn up.

But the potential for human error looms large.

First of all, these so-called sponges look nothing like the colorful brick in your kitchen sink. A surgical sponge looks more like a cocktail napkin of thin white gauze; unfolded, it covers up to a square foot.

Sponges also are put into the cavities where the surgeon is working to mop up blood and other fluids.

"When you have this inside, it looks like part of the anatomy," said Tammy Baergen, Good Sam's director of surgical services, as she wadded a pristine white sponge in her hand. "They can be hard to spot."

The Association of periOperative Registered Nurses -- the nurses who are in charge of such counts -- reported this year that at least 80 percent of the time a sponge is left in a patient, the operating room count has been completed and, in theory, every sponge has been accounted for.

"There's human error involved because we're not perfect, so it's a process that needs to be looked at," said H.J. Kim, associate professor of surgical oncology at the University of North Carolina, who studies counting practices and technology that can improve them.

Hospitals sometimes use X-rays as backup. Some hospitals X-ray patients when the count comes up short, Kim said. Others X-ray all surgical patients.

A special blue thread weaves through surgical sponges and, in theory, would be revealed in an X-ray.

"But X-rays are expensive, they are time-consuming and we expose the patient to unnecessary radiation," Kim said.

And they don't always work. Ask Bailey.

Doctors reading his X-rays first told him the anomaly in the pictures was a metal clip to patch together his intestines. Then it was identified as a drain, though no drain had been used in surgery.

Good Sam's a system testing site

The next advance, said RF Surgical's Subiry, is a mat that uses the same radio-frequency technology as the wand but lies under the patient on the surgical table. It would eliminate the potential for human error, he said.

But the nurses would keep the wand, because if the sponge isn't in the patient, it still needs to be found.

Good Sam, as one of the company's two Beta testing sites, will get first dibs on the mat or any other RF technology, hospital CEO Nosacka said. The new technology costs \$170,000 a year, he said.

That's not so much for the wands, one for each of the 22 operating rooms, but for the steady stream of tagged sponges that will be required.

RF Surgical Systems estimates the cost of each surgical procedure goes up between \$12 and \$15 to use the tagged sponges.

But Subiry said other hospitals using this system save money, for example, by eliminating the need for X-rays to find a lost sponge.

Added Bailey: "I would expect in most cases it's less expensive than a civil lawsuit."

The jurist said he's feeling much better now that folks from Cleveland Clinic in Weston removed the putrefied remains of the sponge and told him of the wand technology used at their sister facility in Ohio.

"There are a lot of risks you assume in surgery," Bailey said. "You don't imagine ... they're going to leave a sponge or instrument in you."

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Sponge errors

- Although counts are standard procedure, leaving a sponge or surgical instrument behind is the most common surgical error, according to medical journals.

- * There are an estimated 3,000 cases a year.

- * The top causes include a distracted or multi-tasking staff; staff that does not follow procedure; or staff that is working under emergency cases.

- * Other radio-frequency technology systems attempted include trash cans rimmed with an RF transmitter that can count each tagged sponge as it goes in; and tags that can ID each sponge, so medical personnel can tell which is missing.

Caption: LANNIS WATERS/Staff Photographer The case of a sponge being left in a judge prompted **Good Samaritan Medical Center CEO** Mark Nosacka and Tammy Baergen, director of surgical services,

to employ the sponge-and-wand detection system.Bailey

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